

PRODUCT INFORMATION

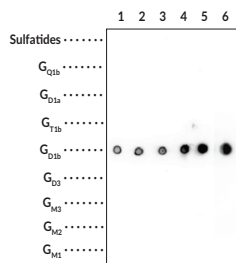


Ganglioside G_{D1b} Monoclonal Antibody (Clone MOG1) Item No. 38293

Overview and Properties

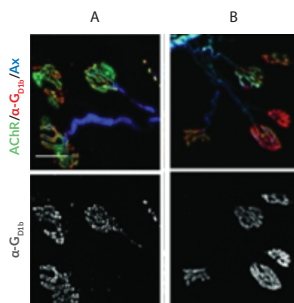
Contents:	This vial contains 100 µg of protein A-purified monoclonal antibody
Immunogen:	G _{D1b}
Cross Reactivity:	(+) G _{D1b} ; (-) Other gangliosides
Species Reactivity:	Species Independent
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Clone:	MOG1
Host:	Mouse
Isotype:	IgG3
Applications:	Dot blot, ELISA, Immunofluorescence (IF), and Thin Layer Chromatography (TLC); the recommended starting dilution for dot blot, ELISA, and TLC is 1:100 and 1:10-150 for IF. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



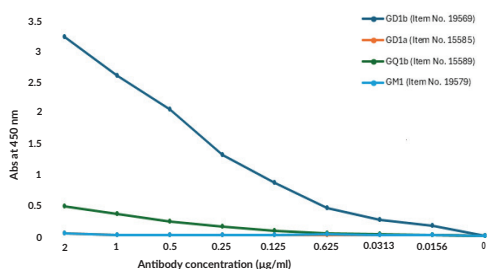
Lane 1: 10 ng
Lane 2: 25 ng
Lane 3: 50 ng
Lane 4: 100 ng
Lane 5: 200 ng
Lane 6: 2 µg

Dot blot against gangliosides using Ganglioside G_{D1b} Monoclonal Antibody (Clone MOG1).



Immunofluorescence analysis of *Triangularis sterni* muscle labeled with Ganglioside G_{D1b} Monoclonal Antibody (Clone MOG1) (red).¹

A: Surface staining
B: Permeabilized with Triton X-100



ELISA of Ganglioside GD1b Monoclonal Antibody (Clone MOG1) (Item No. 38293). Plates were coated with gangliosides and blocked with BSA, followed by probing with the indicated amounts of Ganglioside GD1b Monoclonal Antibody (Clone MOG1).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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Description

Ganglioside G_{D1b} is an acidic glycosphingolipid that contains two sialic acid residues linked to an inner galactose unit. It is a component of plasma membranes where it packs densely with cholesterol to form lipid microdomains that modulate both intra- and intercellular signaling events.² The concentration of ganglioside G_{D1b} in human brain increases with age, constituting 7.85% of total sialic acid in the brain of 0- to 10-year-old subjects and 20.29% in 11- to 30-year-old subjects.³ An anti-ganglioside G_{D1b} antibody has been used in the study of motor nerve terminal injury in a mouse model of the Guillain-Barré syndrome subform acute motor axonal neuropathy (AMAN).¹ Ganglioside G_{D1b} levels are positively correlated with pilocytic astrocytoma tumor grade, and G_{D1b} has been detected in various other gliomas, including primitive neuroectodermal tumors, glioblastomas, and anaplastic astrocytomas.⁴ Cayman's Ganglioside G_{D1b} Monoclonal Antibody (Clone MOG1) binds to Ganglioside G_{D1b} (porcine) (Item No. 19569) with k_a , k_d , and K_D values of $46,200 \text{ M}^{-1}\text{s}^{-1}$, 0.00249 s^{-1} , and $0.052 \text{ }\mu\text{M}$, respectively, as determined by surface plasmon resonance (SPR). It can be used for dot blot, ELISA, immunofluorescence (IF), and TLC immunostaining applications.

References

1. Fewou, S.N., Rupp, A., Nickolay, L.E., *et al.* Anti-ganglioside antibody internalization attenuates motor nerve terminal injury in a mouse model of acute motor axonal neuropathy. *J. Clin. Invest.* **122(3)**, 1037-1051 (2012).
2. Kolter, T. Ganglioside biochemistry. *ISRN Biochem.* 506160 (2012).
3. Riboni, L., Sonnino, S., Acquotti, D., *et al.* Natural occurrence of ganglioside lactones. Isolation and characterization of GD1b inner ester from adult human brain. *J. Biol. Chem.* **261(18)**, 8514-8519 (1986).
4. Comas, T.C., Tai, T., Kimmel, D., *et al.* Immunohistochemical staining for ganglioside GD1b as a diagnostic and prognostic marker for primary human brain tumors. *Neuro Oncol.* **1(4)**, 261-267 (1999).

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